Shantilal Shah Engineerig College, Bhavnagar

Applied Mechanics Department

Syllabus of MST for B.E. - 4th Semester [April - 2022]

#	Subject Code	Name of Subject	Date	Time	Syllabus
1	3140603	**Structural Analysis - I**	**26-04-2022**	**11:30 AM to 12:45 PM**	**Unit-1 : Fundamentals of Statically Determinate Structures** **Basics:** Types of statically determinate & indeterminate structures, static and kinematic indeterminacy, stability of structures. **Unit-2 : Strain energy & Displacement of Statically Determinate structures** **Strain Energy :** Resilience, strain energy due to axial loads & flexure, proof resilience, modulus of resilience, impact loads, and sudden loads **Displacement :** Differential equation of elastic curve, relation between moment, slope and deflection, Displacement of beam by Macaulay's method, Moment Area Method, Conjugate Beam Method and Strain Energy using First Principle (i.e equating strain energy to work done - Cantilever Type) **Unit-3 : Direct and Bending stresses + Column & Struts** **Columns and Struts Basics:** Buckling of columns, different end conditions, effective length, least radius of gyration and Euler's formulae (Example based on Euler's Formula only)

S.D.

Prof. D. P. Advani   **Prof. K. A. Mehta**   **Prof. H. K. Sarvaiya**   **Prof. B. H. Solanki**